Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)

2. (Withdrawn) A reagent according to claim 22, wherein said alkali metal ions are selected from the group consisting of ions of sodium and potassium; said alkaline earth metal ions are selected from the group consisting of ions of calcium and magnesium; and said halide ions are chloride ions.

3. (Withdrawn) A reagent according to claim 22, wherein said saccharides are selected from the group consisting of glucose, fructose, lactose and galactose.

4. (Withdrawn) A reagent according to claim 22, wherein said enzymes are selected from the group consisting of alkaline phosphatase, alanine aminotransferase, aspartate aminotransferase, amylase, cholinesterase, creatine kinase, gamma-glutamyl transferase, lactate dehydrogenase and lipase.

5. (Withdrawn) A reagent according to claim 22, wherein said sensor particles have a size in the range from about 0.1 µm to about 50 µm.

6. (Withdrawn) A reagent for measuring target analytes in a test sample, said reagent comprising a reagent mixture of different classes of sensor particles in a fluid, the reagent mixture comprising at least one type of sensor particle selected from each of the classes (a), (b) and (c), wherein classes (a), (b) and (c) are:

> (a) ion-sensor particles which interact specifically with at least one analyte in a fluid, where the analyte is selected from the group consisting of alkali metal ions, alkaline earth metal ions, ammonium, halide ions, oxygen, pH; and carbon dioxide; and

> (b) metabolite-sensor particles which interact specifically with at least one analyte in a fluid, where the analyte is selected from the group consisting of saccharides, ammonia,

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urea, uric acid, cholesterol, triglycerides, ethanol, lactate, salicylate, acetaminophen, bilirubin, and creatinine; and

(c) enzyme-sensor particles which interact specifically with at least one enzyme in a fluid,

wherein each sensor particle is capable of interacting specifically with a corresponding target analyte, and capable of producing a fluorescent signal following interaction with the corresponding target analyte.

7. (Currently Amended) A reagent, for measuring target analytes in a test sample, said reagent comprising a reagent mixture of different classes of sensor particles in a ~~fluid~~ buffered aqueous suspension suitable for use in flow cytometry, the reagent mixture comprising at least one type of sensor particle selected from each of the classes (a), (b), and (d), wherein classes (a), (b), and (d) are:

(a) ion-sensor particles which interact specifically with at least one analyte in a fluid, the ion-sensor particles having associated therewith a target ionophore adapted to interact with a target ion in the sample, where the analyte is selected from the group consisting of alkali metal ions, alkaline earth metal ions, ammonium, halide ions, oxygen, pH; and carbon dioxide; and

(b) metabolite-sensor particles which interact specifically with at least one analyte in a fluid, where the analyte is selected from the group consisting of saccharides, ammonia, urea, uric acid, cholesterol, triglycerides, ethanol, lactate, salicylate, acetaminophen, bilirubin, and creatinine; and

(d) antigen- or antibody sensor particles which interact specifically with at least one antigen or antibody in a fluid,

wherein each sensor particle is capable of interacting specifically with a corresponding target analyte, and capable of producing a fluorescent signal following interaction with the corresponding target analyte.

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8. (Withdrawn) A reagent, for measuring target analytes in a test sample, said reagent comprising a reagent mixture of different classes of sensor particles in a fluid, the reagent mixture comprising at least one type of sensor particle selected from each of the classes (a), (b) and (e), wherein classes (a), (b) and (e) are:

> (a) ion-sensor particles which interact specifically with at least one analyte in a fluid, where the analyte is selected from the group consisting of alkali metal ions, alkaline earth metal ions, ammonium, halide ions, oxygen, pH; and carbon dioxide; and

> (b) metabolite-sensor particles which interact specifically with at least one analyte in a fluid, where the analyte is selected from the group consisting of saccharides, ammonia, urea, uric acid, cholesterol, triglycerides, ethanol, lactate, salicylate, acetaminophen, bilirubin, and creatinine; and

> (e) nucleotide sequence-sensor particles which interact specifically with at least one nucleotide sequence in a fluid,

wherein each sensor particle is capable of interacting specifically with a corresponding target analyte, and capable of producing a fluorescent signal following interaction with the corresponding target analyte.

9. (Withdrawn and Currently Amended) A reagent, for measuring target analytes in a test sample, said reagent comprising a reagent mixture of different classes of sensor particles in a ~~fluid~~ buffered aqueous suspension, the reagent mixture comprising at least one type of sensor particle selected from each of the classes (a), (b), (c) and (d), wherein classes (a), (b), (c) and (d) are:

> (a) ion-sensor particles which interact specifically with at least one analyte in a fluid, the ion-sensor particles having associated therewith a target ionophore adapted to interact with a target ion in the sample, where the analyte is selected from the group consisting of alkali metal ions, alkaline earth metal ions, ammonium, halide ions, oxygen, pH; and carbon dioxide; and

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(b) metabolite-sensor particles which interact specifically with at least one analyte in a fluid, where the analyte is selected from the group consisting of saccharides, ammonia, urea, uric acid, cholesterol, triglycerides, ethanol, lactate, salicylate, acetaminophen, bilirubin, and creatinine; and

(c) enzyme-sensor particles which interact specifically with at least one enzyme in a fluid; and

(d) antigen- or antibody sensor particles which interact specifically with at least one antigen or antibody in a fluid,

wherein each sensor particle is capable of interacting specifically with a corresponding target analyte, and capable of producing a fluorescent signal following interaction with the corresponding target analyte.

10. (Withdrawn) A reagent, for measuring target analytes in a test sample, said reagent comprising a reagent mixture of different classes of sensor particles in a fluid, the reagent mixture comprising at least one type of sensor particle selected from each of the classes (a), (b), (c) and (e), wherein classes (a), (b), (c) and (e) are:

(a) ion-sensor particles which interact specifically with at least one analyte in a fluid, where the analyte is selected from the group consisting of alkali metal ions, alkaline earth metal ions, ammonium, halide ions, oxygen, pH; and carbon dioxide; and

(b) metabolite-sensor particles which interact specifically with at least one analyte in a fluid, where the analyte is selected from the group consisting of saccharides, ammonia, urea, uric acid, cholesterol, triglycerides, ethanol, lactate, salicylate, acetaminophen, bilirubin, and creatinine; and

(c) enzyme-sensor particles which interact specifically with at least one enzyme in a fluid; and

(e) nucleotide sequence-sensor particles which interact specifically with at least one nucleotide sequence in a fluid,

wherein each sensor particle is capable of interacting specifically with a corresponding target analyte, and capable of producing a fluorescent signal following interaction with the corresponding target analyte.

11. (Withdrawn and Currently Amended) A reagent, for measuring target analytes in a test sample, said reagent comprising a reagent mixture of different classes of sensor particles in a ~~fluid~~ <u>buffered aqueous suspension</u>, the reagent mixture comprising at least one type of sensor particle selected from each of the classes (a), (b), (d) and (e), wherein classes (a), (b), (d) and (e) are:

(a) ion-sensor particles which interact specifically with at least one analyte in a fluid, <u>the ion-sensor particles having associated therewith a target ionophore adapted to interact with a target ion in the sample,</u> where the analyte is selected from the group consisting of alkali metal ions, alkaline earth metal ions, ammonium, halide ions, oxygen, pH; and carbon dioxide; and

(b) metabolite-sensor particles which interact specifically with at least one analyte in a fluid, where the analyte is selected from the group consisting of saccharides, ammonia, urea, uric acid, cholesterol, triglycerides, ethanol, lactate, salicylate, acetaminophen, bilirubin, and creatinine; and

(d) antigen- or antibody sensor particles which interact specifically with at least one antigen or antibody in a fluid, and

(e) nucleotide sequence-sensor particles which interact specifically with at least one nucleotide sequence in a fluid,

wherein each sensor particle is capable of interacting specifically with a corresponding target analyte, and capable of producing a fluorescent signal following interaction with the corresponding target analyte.

Claims 12-21. (Canceled)

22. (Withdrawn and Currently Amended) A reagent for measuring target analytes in a test sample, said reagent comprising a reagent mixture of different classes of sensor particles in a

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~~fluid~~ <u>buffered aqueous suspension</u>, the reagent mixture comprising at least one type of sensor particle selected from each of the classes (a), (b), (c), (d), and (e), wherein classes (a), (b), (c), (d), and (e) are:

(a) ion-sensor particles which interact specifically with at least one analyte in a fluid, <u>the ion-sensor particles having associated therewith a target ionophore adapted to interact with a target ion in the sample,</u> where the analyte is selected from the group consisting of alkali metal ions, alkaline earth metal ions, ammonium, halide ions, oxygen, pH; and carbon dioxide; and

(b) metabolite-sensor particles which interact specifically with at least one analyte in a fluid, where the analyte is selected from the group consisting of saccharides, ammonia, urea, uric acid, cholesterol, triglycerides, ethanol, lactate, salicylate, acetaminophen, bilirubin, and creatinine; and

(c) enzyme-sensor particles which interact specifically with at least one enzyme in a fluid; and

(d) antigen- or antibody sensor particles which interact specifically with at least one antigen or antibody in a fluid; and

(e) nucleotide sequence-sensor particles which interact specifically with at least one nucleotide sequence in a fluid,

wherein each sensor particle is capable of interacting specifically with a corresponding target analyte, and capable of producing a fluorescent signal following interaction with the corresponding target analyte.

23. (Withdrawn) A reagent according to Claim 22 wherein:

(a) the ion-sensor particles comprise a plurality of at least one type of sample-insoluble particles having associated therewith a target ionophore adapted to interact with a target ion in the sample, and a first emitted fluorescent signal following interaction of the target ionophore with a target ion;

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(b) the metabolite-sensor particles comprise a plurality of at least one type of sample-insoluble particles having associated therewith a ligand adapted to interact with a target metabolite in the sample to produce a second fluorescent signal following interaction of the ligand with the target metabolite;

(c) the enzyme-sensor particles comprise a plurality of at least one type of sample-insoluble particles having associated therewith a fluorogenic substrate adapted to interact with a target enzyme in the sample to produce a third fluorescent signal;

(d) the antigen- or antibody-sensor particles comprise a plurality of at least one type of sample-insoluble particles having associated therewith an immobilized pair member adapted to interact to form a complex with a complementary target antigen or a complementary antibody and to produce a fourth fluorescent signal following interaction of the pair member with the complementary target antigen or complementary antibody; and

(e) the nucleotide sequence-sensor particles comprise a plurality of at least one type of sample-insoluble particles having associated therewith a polynucleotide molecule complementary to a target nucleotide sequence and capable of hybridizing with the target nucleotide sequence under hybridizing conditions, and a fluorescent signal material that produces a fifth fluorescent signal upon hybridization between the complementary polynucleotide molecule and the target nucleotide sequence.

24. (Withdrawn) A method for assaying multiple analytes in a test sample, said method comprising:

(1) admixing a test sample containing multiple analytes to be measured with a reagent for measuring target analytes according to Claim 22, wherein each sensor particle comprises coding indicia which confer uniquely identifying optical properties on that type of particle and a measurement substrate which specifically interacts with an analyte of interest such that measurement of the optical properties of said substrate are varied;

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(2) allowing the resulting admixture to incubate for a period of time sufficient for each type of sensor particle to interact with the analyte with which it specifically interacts to vary the optical properties measurement of the sensor particle;

(3) transferring the admixture to a reading device and reading both the coding and the optical properties measurement of each sensor particle individually;

(4) storing the measured optical properties of each sensor particle type according to the optical properties coding read from the particles; and

(5) processing the stored measurements for each sensor particle type to obtain an assay result for the analyte associate with each type of sensor particle.

25. (Withdrawn) A method according to claim 24, wherein said alkali metal ions are selected from the group consisting of ions of sodium and potassium; said alkaline earth metal ions are selected from the group consisting of ions of calcium and magnesium; and said halide ions are chloride ions.

26. (Withdrawn) A method according to claim 24, wherein said saccharides are selected from the group consisting of glucose, fructose, lactose and galactose.

27. (Withdrawn) A method according to claim 24, wherein said enzymes are selected from the group consisting of alkaline phosphatase, alanine aminotransferase, aspartate aminotransferase, amylase, cholinesterase, creatine kinase, gamma-glutamyl transferase, lactate dehydrogenase and lipase.

28. (Withdrawn) A method according to claim 24, wherein said reading device is a flow cytometer, said measurement optical properties of said particles are fluorescence, and said reading step is carried out by measuring the fluorescence of each type of sensor particle.

29. (Previously Presented) A reagent according to claim 7, wherein said alkali metal ions are selected from the group consisting of ions of sodium and potassium; said alkaline earth metal ions are selected from the group consisting of ions of calcium and magnesium; and said halide ions are chloride ions.

30. (Previously Presented) A reagent according to claim 7, wherein said saccharides are selected from the group consisting of glucose, fructose, lactose and galactose.

31. (Previously Presented) A reagent according to Claim 7, wherein the ion-sensor particles comprise a plurality of at least one type of sample-insoluble particles having associated therewith a target ionophore adapted to interact with a target ion in the sample.

32. (Previously Presented) A reagent according to Claim 7, wherein the metabolite-sensor particles comprise a plurality of at least one type of sample-insoluble particles having associated therewith a ligand adapted to interact with a target metabolite.

33. (Previously Presented) A reagent according to Claim 32, further comprising an analogue of the target metabolite having a fluorescent label, wherein the analogue is capable of competing with the target metabolite for interaction with the ligand.

34. (Previously Presented) A reagent according to Claim 7, wherein the antigen- or antibody-sensor particles comprise a plurality of at least one type of sample-insoluble particles having associated therewith an immobilized first antibody adapted to form a first complex with a target antigen.

35. (Previously Presented) A reagent according to Claim 34, further comprising a second reporter antibody labeled with a fluorescent label adapted to form a second complex with the target antigen.

36. (Previously Presented) A reagent according to Claim 34, further comprising an antigen analogue having a fluorescent label, wherein the analogue is adapted to compete with the target antigen in forming a first complex with the immobilized first antibody.

37. (New) A reagent according to Claim 7, wherein the buffered aqueous suspension includes a HEPES buffer, which contains no sodium, phosphate or urea.

38. (New) A reagent according to Claim 7, wherein the buffered aqueous suspension includes a Tris buffer.

39. (New) A reagent according to Claim 7, wherein the buffered aqueous suspension

includes a surfactant.

40. (New) A reagent according to Claim 7, the ion-sensor particles having associated therewith a fluorescent indicator.

41. (New) A reagent according to Claim 40, wherein the target ionophore and the fluorescent indicator are parts of a single molecule.

42. (New) A reagent according to Claim 40, wherein the target ionophore and the fluorescent indicator are separate molecules distributed uniformly on or through the particles,

43. (New) A reagent according to Claim 7, wherein the target ionophore is selected from the group consisting of valinomycin, monactin; ETH2120 (N,N,N=,N-tetracyclohexyl-1,2-phenylenedioxydiacetamide), ETH1001, chloro(octaethylporphyrinato)indium, BME-44 (2-dodecyl-2-methyl-1,3-propanediyl bis[N-[5-nitro(benzo-15-crown-5)-4-yl]carbamate]), and Sodium Ionophore X (4- tert-butylcalix[4]arene-tetraacetic acid tetraethyl ester).

44. (New) A reagent according to Claim 40, wherein the fluorescent indicator is ETH 5294 (9-(diethylamino)-5-(octadecanoylimino)-5H-benzo[a] phenoxazine)..